

Notice of Allowability

Application No.

10/803,141

Examiner

Nikita Wells

Applicant(s)

FUKUDA ET AL.

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Application filed on 17 March 2004.
2. ☒ The allowed claim(s) is/are 1,3-5 and 7-10.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413).
Paper No./Mail Date 11/14/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Nikita Wells
Primary Examiner
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Detailed Action

Examiner's amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David R. Metzger on November 14, 2005.

The Examiner initiated an Interview with the Applicant to amend or cancel a number of claims that could not be allowed. By incorporating the subject matter of claims 2 and 6 into the independent claims 1 and 5, the application can be allowed. Therefore:

In claim 1, line 7: after "...electric field" the following is inserted --, wherein said pulse modulator is a pulse modulator capable of controlling the high-frequency electric field application time at the time of pulse modulation of said high-frequency electric field.--.

In claim 5, line 7: after "...electric field" the following is inserted --, wherein the high-frequency electric field application time is controlled at the time of pulse modulation of said high-frequency electric field.--.

Claims 2 and 6 are canceled.

Allowable Subject Matter

2. Claims 1, 3-5, and 7-10 are allowed.
3. The following is an examiner's statement of reasons for allowance:

With respect to the independent claims 1 and 5, prior art fails to disclose or make obvious a plasma surface treatment system and method for irradiating a surface of a substrate to be treated with a nitrogen plasma excited by a high-frequency electric field to introduce nitrogen into said surface of said substrate, wherein said system and method comprises a pulse modulator for pulse modulation of said high-frequency electric field, wherein said pulse modulator is a pulse modulator capable of controlling the high-frequency electric field application time at the time of pulse modulation of said high-frequency electric field.

The dependent claims 3-4 and 7-10 are allowable by virtue of their dependence upon the independent claims 1 and 5, respectively.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chan et al. (5,580,429) disclose a plasma surface treatment system using nitrogen and an RF plasma for depositing thin film coatings of complex compounds on a workpiece. Li et al. (6,238,512 B1) disclose a plasma generating apparatus using pulse modulation for forming thin films on the surfaces of substrates.


5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikita Wells whose telephone number is (571) 272-2484. The examiner can normally be reached on 8:30 AM - 5:00 PM. If attempts to reach the examiner by

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telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The central fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nikita Wells, Primary Examiner
Art Unit 2881
November 14, 2005